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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,107	03/28/2001	Tien-Chen Hu	67,200-364	2312

7590 04/14/2004

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EXAMINER

MCDONALD, SHANTESE L

ART UNIT PAPER NUMBER

3723

*7*

DATE MAILED: 04/14/2004

Please find below and/or attached an-Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/820,107

Applicant(s)

HU ET AL.

Examiner

Shantese L. McDonald

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-6,8-10 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-6 and 8-10 is/are allowed.
- 6) ☐ Claim(s) 12-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Pant et al.

Pant et al. teaches a linear chemical mechanical polishing apparatus equipped with a programmable pneumatic support platen, 25, comprising a wafer carrier, 17, for holding and rotating a wafer mounted thereon with a first surface to be polished exposed and facing downwardly, a continuous belt, 12, for mounting a plurality of polishing pads, 15, a motor means for providing rotational motion of the belt, a support platen situated to a bottom surface of the belt corresponding to a position of the wafer carrier so as to force the polishing pad against the first surface of the wafer, the support platen having a plurality of apertures, arranged in at least six concentric circles, (col. 7, lines 14-26), controlled in at least three zones with each zone controlling a plurality of openings in the same concentric circle, (col. 7, lines 27-41), in communication with a gas source through the plurality of apertures, (col. 9, line 2). Pant et al. also teaches a pressure detector and a flow regulator for each of the at least three zones, and a process controller for detecting and regulating a pressure and a flow of the gas flow, (col. 7, line 66- col. 8, line 48). Pant et al. also teaches a detecting a pressure of gas

flow through a pre-selected zone incorporating a pre-selected plurality of openings and sending a first signal to a process controller, 51, comparing the first signal with a pre-stored value in the process controller and sending a second signal to a flow regulator responsive to the pre-selected zone and altering the pressure of the gas flow responsive to the second signal until the first signal substantially equals the pre-stored value, (col. 8, lines 13-48).

***Allowable Subject Matter***

Claims 1-6 and 8-10 are allowed.

***Response to Arguments***

Applicant's arguments filed 2/6/04 have been fully considered but they are not persuasive.

The applicant argues that the process steps indicative of a closed-loop control process are not taught or disclosed by Pant et al. The Examiner notes that the Pant et al. reference teaches that the gap sensors monitor a gap separation between the belt and the platen, which is actually a pressure, or lack thereof, measurement. The reference states that through experimentation, ideal gap distances at various sensor locations are determined for each type of linear polishing system for achieving a uniform rate of polish, and once these values are determined, the sensors are used to maintain these values. That is the equivalent of the pre-stored value. The reference goes on to state that when a particular sensor senses a gap distance which is out of tolerance, the fluid pressure for the corresponding fluid dispensing openings monitored by that sensor are adjusted in order to bring the gap distance within tolerance, (col. 8, lines 14-

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24). The Pant reference also teaches that the sensors monitor a parameter and transmits the sensors reading to the CPU, and whenever the systems parameters are out of tolerance the CPU issues commands to the fluid control unit to adjust the fluid pressure to compensate, (col. 8, lines 37-44). This is definitely a teaching of a closed-loop control process.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shantese L. McDonald whose telephone number is (703) 308-8722. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.L.M.  
April 8, 2004



Joseph J. Hail, III  
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